

**GENERAL NOTES:**

- THE ELECTRICAL CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE DRAWINGS OF ALL OTHER TRADES ON THE PROJECT. ELECTRICAL OR SYSTEMS CONNECTIONS INDICATED ON ARCHITECTURAL, MECHANICAL, CIVIL, STRUCTURAL, KITCHEN AND ALL OTHER DRAWINGS WHICH ARE PART OF THIS PROJECT, SHALL BE CONSIDERED A PART OF THIS CONTRACT AND SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AT NO EXTRA COST TO THE OWNER.
- THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC IN NATURE AND AS SUCH SHALL NOT BE SCALED. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF DEVICES AND EQUIPMENT AND DIMENSIONAL INFORMATION PRIOR TO ROUGH-IN. COORDINATE LOCATIONS OF MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN OF SERVICE EQUIPMENT AND WIRING.
- COORDINATE MOUNTING HEIGHTS OF ALL DEVICES WITH ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS AND CASEWORK DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT ROUTING OF WIRING AND CONDUITS AND SHALL BE RESPONSIBLE FOR SIZING ALL BRANCH CIRCUIT WIRING TO LIMIT VOLTAGE DROP TO 3%. CONTRACTOR SHALL SIZE CONDUIT TO ACCOMMODATE WIRING PER NEC. 20 AMPERE CIRCUITS SHALL BE SIZED AS FOLLOWS:

20 AMPERE CIRCUITS					
120 VOLT		277 VOLT		MINIMUM CONDUIT SIZE	
WIRING LENGTH	WIRE SIZE	WIRING LENGTH	WIRE SIZE		
0' - 100'	#12	0' - 130'	#12		3/4"
101' - 200'	#10	130' - 210'	#10		3/4"
201' - 250'	#8	210' - 340'	#8		3/4"
251' - 300'	#6	340' - 540'	#6		3/4"
OVER 300'	#4	OVER 540'	#4		1"

NOTES:  
BRANCH CIRCUITS IN PANELBOARDS WITH 200% RATED NEUTRAL BUS AND ALL DIMMED LIGHTING CIRCUITS & ECM MOTORS SHALL HAVE DEDICATED NEUTRAL CONDUCTORS.

WIRING AND CONDUIT SIZES INDICATED IN PANEL SCHEDULES ARE MINIMUM ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT WIRING AND CONDUIT SIZES. CONTRACTOR SHALL PROVIDE SPLICE BLOCKS AND REDUCING PINS AS REQUIRED TO TERMINATE WIRING AND MAKE FINAL CONNECTIONS.

- ELECTRICAL BOXES IN FIRE RATED PARTITIONS SHALL NOT EXCEED 16 SQUARE INCHES IN AREA (IF 4"x4"). SHALL BE MADE OF STEEL, AND SHALL BE SUCH THAT THE CUMULATIVE AREA OF BOX "CUTOUTS" IN THE FIREWALL DOES NOT EXCEED 100 SQUARE INCHES PER 100 SQUARE FEET OF WALL AREA. ELECTRICAL BOXES ON OPPOSITE SIDES OF THE SAME FIREWALL SHALL BE SEPARATED BY A HORIZONTAL AND VERTICAL DISTANCE OF NOT LESS THAN 24 INCHES. THE ELECTRICAL CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS, AS NECESSARY, TO ELECTRICAL BOX LOCATIONS TO ENSURE COMPLIANCE WITH THIS REQUIREMENT SINCE BOX LOCATIONS ARE TYPICALLY NOT DIMENSIONED ON THE DRAWINGS. CONSULT ARCHITECT IF CLARIFICATION IS REQUIRED.
- NEW WALLS ARE SHADED ON THE FLOOR PLANS, EXISTING WALLS ARE NOT SHADED. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MOUNTING OF DEVICES WITH WALL TYPE.

**DEMOLITION NOTES:**

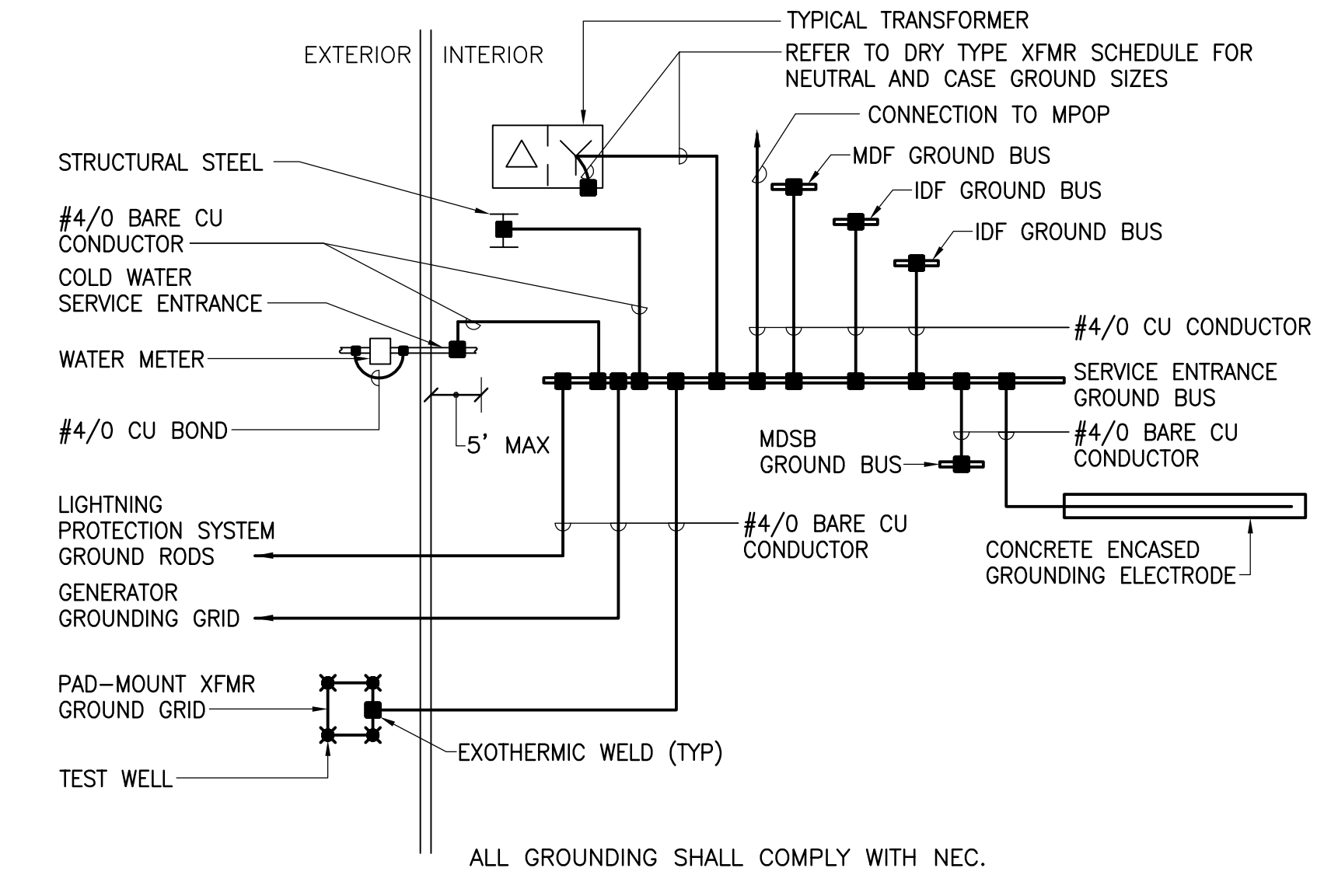
- DEMOLITION DRAWINGS ARE DIAGRAMMATIC IN NATURE; NO ATTEMPT HAS BEEN MADE TO SHOW ALL EXISTING ELECTRICAL WORK IN AREAS INDICATED TO BE RENOVATED. ALL EXISTING ELECTRICAL WORK IS TO BE REMOVED UNLESS OTHERWISE NOTED. WHEN AN ITEM IS TO BE REMOVED, REMOVE ALL ASSOCIATED ELECTRICAL WORK BACK TO POINT-OF-SOURCE.
- WHERE WORK PASSES THROUGH THE RENOVATION AREA TO SERVE OTHER PORTIONS OF THE BUILDING, OR WORK IN THE RENOVATION AREA INDICATED TO BE REMAIN, IT SHALL BE SUITABLY RELOCATED AND THE SYSTEMS RESTORED TO NORMAL. COORDINATE ANY OUTAGES WITH OWNER 7 DAYS IN ADVANCE.
- WORK INDICATED TO REMAIN SHALL BE SUITABLY PROTECTED AGAINST DAMAGE.
- TURN OVER ALL CIRCUIT BREAKERS, LIGHTING AND APPLIANCE PANELBOARD COVERS, CONTACTORS, MOTOR STARTERS, TIME CLOCKS, BATTERY PACKS, CLOCKS, SPEAKERS, ETC THAT ARE IN GOOD CONDITION TO OWNER. CONTACT OWNER FOR VERIFICATION IF ITEMS ARE IN QUESTIONABLE CONDITION.
- COORDINATE ALL DEMOLITION AND CONSTRUCTION ACTIVITIES WITH THE OWNER TO MINIMIZE DISRUPTION OF THE NORMAL DAILY FUNCTIONING OF THE OWNERS OCCUPIED AREAS.
- REMOVE AND REINSTALL ALL EXISTING CEILING MOUNTED DEVICES INDICATED TO REMAIN AS REQUIRED TO SUIT NEW CEILING INSTALLATION.
- ALL REMOVED DEVICE WALL PENETRATIONS SHALL BE PATCHED AND PAINTED TO MATCH EXISTING WALL COLOR OR WALL COLOR PER ARCHITECT'S DIRECTION.

**ELECTRICAL LEGEND:**  
(MOUNTING HEIGHTS ARE TO CENTERLINE OF DEVICE UON)

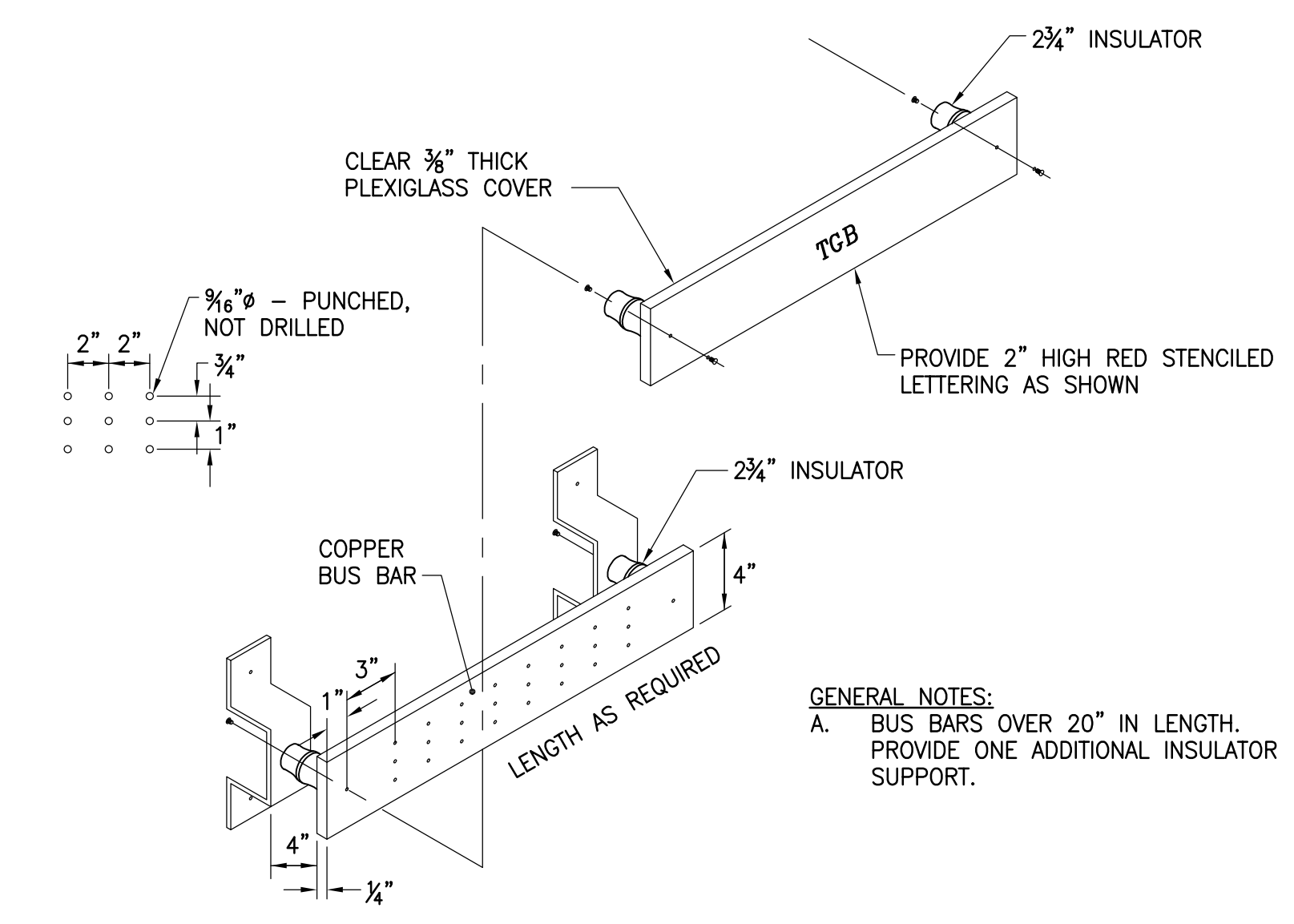
- CONDUIT**
- HOMERUN TO PANELBOARD; REFER TO PANEL SCHEDULES FOR MINIMUM WIRE AND CONDUIT SIZES
  - BRANCH CIRCUIT CONDUIT AND WIRING CONCEALED IN CEILING OR WALL SPACE, OR SURFACE MOUNTED WHERE NO CEILING OR WALL SPACE EXISTS; REFER TO PANEL SCHEDULES FOR MINIMUM WIRE AND CONDUIT SIZES
  - BRANCH CIRCUIT CONDUIT AND WIRING IN SLAB, UNDER FLOOR OR UNDERGROUND; REFER TO PANEL SCHEDULES FOR MINIMUM WIRE AND CONDUIT SIZES
- POWER**
- DISTRIBUTION PANELBOARD, SURFACE MOUNTED AT 6'-6" AFF TO TOP OF PANEL.
  - PANELBOARD; RECESSED, SURFACE MOUNTED; MOUNT AT 6'-6" AFF TO TOP OF PANEL.
  - PANELBOARD; RECESSED, SURFACE MOUNTED; MOUNT AT 5'-6" AFF TO TOP OF PANEL.
  - PANELBOARD; RECESSED, SURFACE MOUNTED; MOUNT AT 5'-6" AFF TO TOP OF PANEL.
  - SINGLE POLE MANUAL MOTOR STARTING SWITCH WITH HOA SWITCH; MOUNT AT 48" AFF IN NEMA 1 ENCLOSURE UON
  - MOTOR; AS NOTED
  - UNIT HEATER
  - SAFETY DISCONNECT SWITCH; FUSED, NONFUSED IN NEMA 1 ENCLOSURE UON; MOUNT AT 48" AFF UON; RATING AND FUSING AS NOTED
  - ENCLOSED CIRCUIT BREAKER IN NEMA 1 ENCLOSURE UON; MOUNT AT 5'-6" TO TOP AFF UON; SIZE AS NOTED
  - COMBINATION TYPE MOTOR STARTER; FVNR WITH CONTROL XFMR, RED AND GREEN INDICATING LIGHTS, HOA SELECTOR SWITCH AND CIRCUIT BREAKER DISCONNECT SWITCH IN NEMA 1 ENCLOSURE UON; MOUNT AT 5'-6" TO TOP AFF UON
  - JUNCTION BOX; CEILING, WALL MOUNTED
  - TO GROUND
  - EPO PUSHBUTTON, UON; MOUNT 48" AFF AS INDICATED
  - ELECTRICAL METER
  - SURGE PROTECTION DEVICE
  - VARIABLE FREQUENCY DRIVE FURNISHED UNDER DIVISION 15, INSTALLED UNDER DIVISION 16
  - TRANSFORMER

- MISCELLANEOUS**
- REFERENCE TO DRAWING NOTE
  - DETAIL REFERENCE: DETAIL NUMBER/DRAWING NUMBER
  - ITEMS SHOWN DASHED/HEAVY ARE TO BE REMOVED
  - ITEMS SHOWN SOLID/LIGHT ARE EXISTING TO REMAIN
  - ITEMS SHOWN DASHED-DOTTED/LIGHT ARE TO OCCUR IN FUTURE PHASES

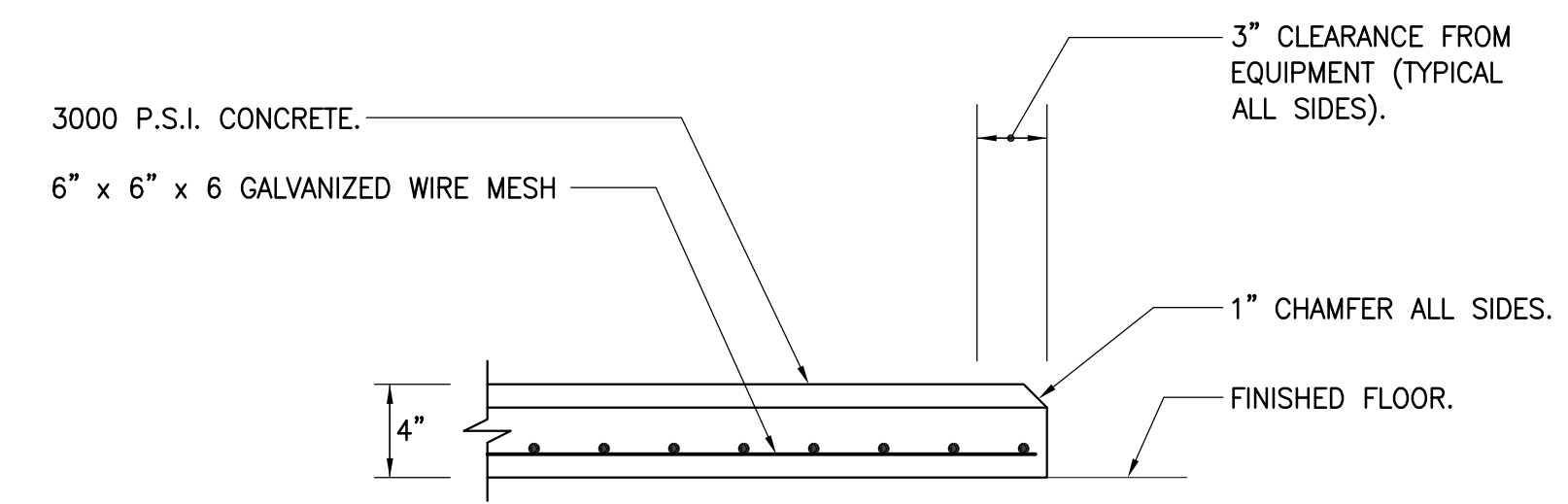
- ABBREVIATIONS:**
- A AMPERE, AMPERES
  - AFF ABOVE FINISHED FLOOR
  - AHU AIR HANDLING UNIT
  - AIC AMPERE INTERRUPTING CAPACITY
  - ATS AUTOMATIC TRANSFER SWITCH
  - AWG AMERICAN WIRE GAUGE
  - CATV CABLE TELEVISION
  - CCTV CLOSED CIRCUIT TELEVISION
  - C CONDUIT
  - CB CIRCUIT BREAKER
  - DWG DRAWING
  - ECB ENCLOSED CIRCUIT BREAKER
  - EAF EXHAUST FAN
  - EPO EMERGENCY POWER OFF
  - ETR EXISTING TO REMAIN
  - EWG ELECTRIC WATER COOLER
  - EX EXISTING
  - FAAP FIRE ALARM ANNUNCIATOR PANEL
  - FACP FIRE ALARM CONTROL PANEL
  - FLA FULL LOAD AMPERES
  - FSS FUSED SAFETY SWITCH
  - G GROUND
  - GFEP GROUND FAULT EQUIPMENT PROTECTION
  - GFI GROUND FAULT INTERRUPTING
  - HOA HAND-OFF-AUTOMATIC
  - HP HORSEPOWER
  - HW HOT WATER HEATER GENERATOR
  - IDF INTERMEDIATE DISTRIBUTION FRAME
  - IMC INTERMEDIATE METAL CONDUIT
  - KCMIL THOUSAND CIRCULAR MILS
  - KVA KILOVOLT-AMPERES
  - KW KILOWATT
  - LRA LOCKED ROTOR AMPERES
  - MCA MINIMUM CIRCUIT AMPERES
  - MCB MAIN CIRCUIT BREAKER
  - MDF MAIN DISTRIBUTION FRAME
  - MLO MAIN LUGS ONLY
  - MPOP MAIN POINT OF PRESENCE
  - MSB MAIN SWITCHBOARD
  - MTD MOUNTED
  - MH MOUNTING HEIGHT/MANHOLE
  - NEC NATIONAL ELECTRICAL CODE
  - NEMA NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
  - NF/SS NONFUSED SAFETY SWITCH
  - NO NUMBER
  - OC ON CENTERS
  - P POLE, POLES
  - ∅ PHASE
  - PNL PANEL
  - PVC POLYVINYL CHLORIDE
  - RAF RETURN AIR FAN
  - RGS RIGID GALVANIZED STEEL
  - RX REMOVE EXISTING
  - TYP TYPICAL
  - TVSS TRANSIENT VOLTAGE SURGE SUPPRESSOR
  - UH UNIT HEATER
  - V VOLT, VOLTS
  - VR VANDALL RESISTANT
  - WP WEATHERPROOF
  - W WATTS, WIRE, WIRES
  - XFMR TRANSFORMER
  - TTB TELEPHONE TERMINAL BOARD
  - UTP UNSHIELDED TWISTED PAIR
  - UON UNLESS OTHERWISE NOTED



**PARTIAL GROUNDING SINGLE LINE SCHEMATIC DIAGRAM**  
SCALE: NONE

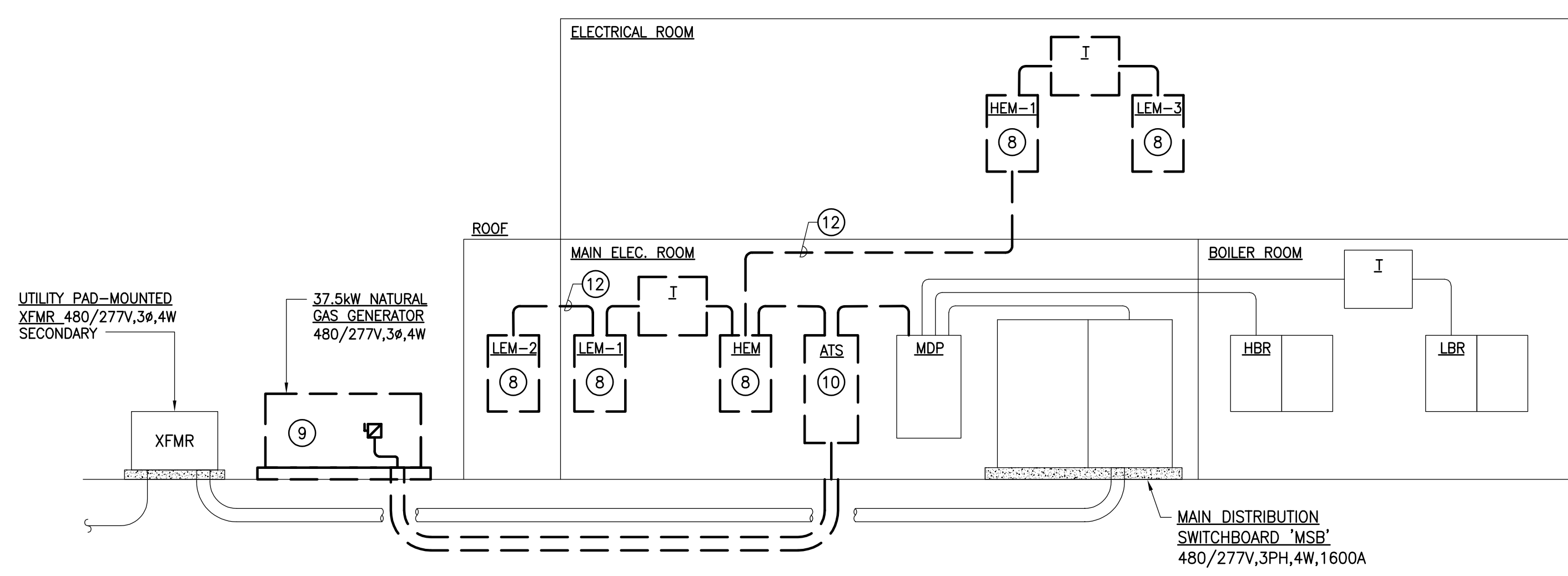


**GROUNDING BUS BAR**  
SCALE: NONE

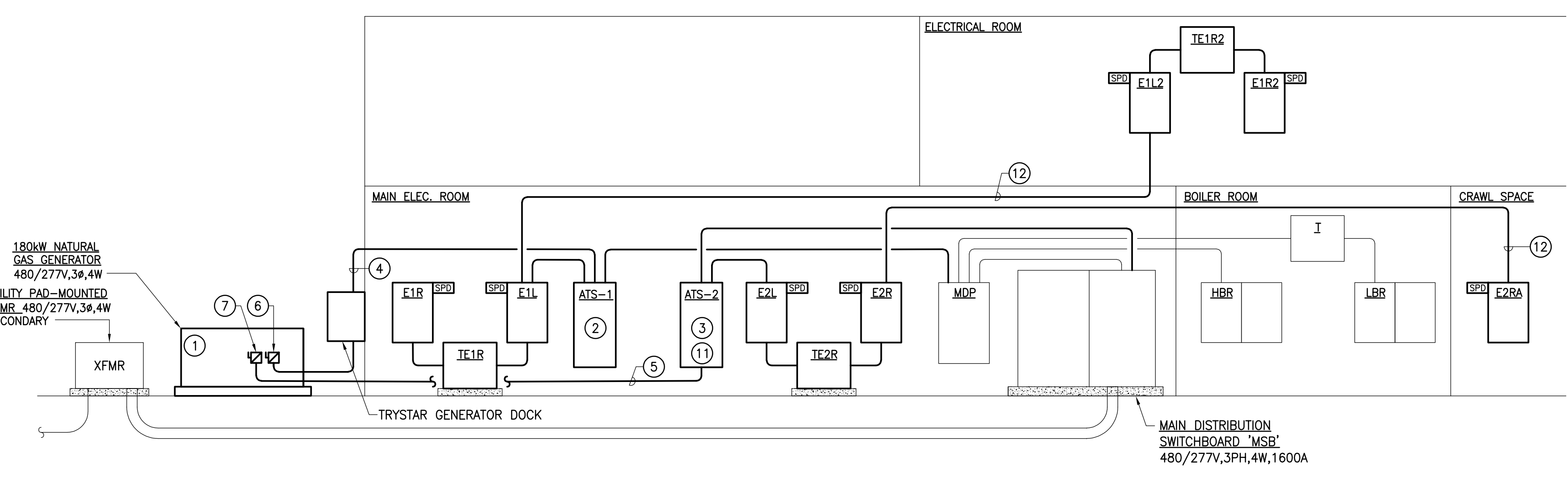


**CONCRETE HOUSEKEEPING PAD**  
SCALE: NONE

**PARTIAL SCHEMATIC POWER RISER DIAGRAM - DEMOLITION**



**PARTIAL SCHEMATIC POWER RISER DIAGRAM - NEW WORK**



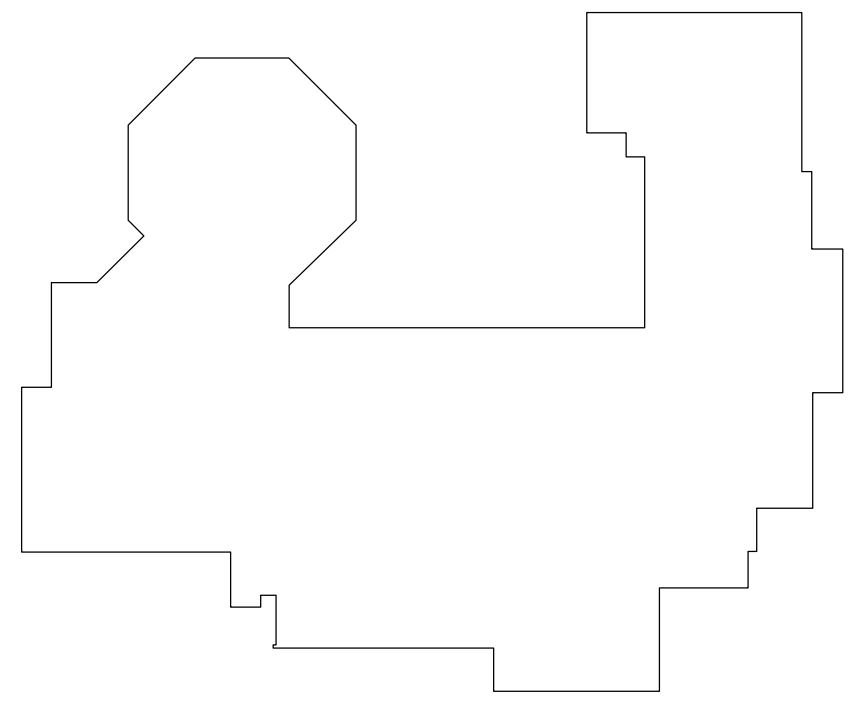
**GENERAL NOTES:**

- REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.
- PROVIDE TRANSFORMER PRIMARY DISCONNECTS, WHERE INDICATED, SIZED TO MATCH (OR EXCEED) THE RATING OF THE PRIMARY CB INDICATED ON THE DRY TYPE TRANSFORMER SCHEDULE.
- CONTRACTOR SHALL REDUCE FEEDER SIZE (IF REQUIRED) WITHIN 5'-0" OF EQUIPMENT TO ACCOMMODATE LUG SIZES.
- PROVIDE PLACARD POSTING THE AVAILABLE FAULT CURRENT AT THE MAIN SERVICE.
- PROVIDE POWER RISER DIAGRAM, LAMINATED AND FRAMED 30" x 42" ON MYLAR AND COORDINATE LOCATION WITH OWNER IN MAIN ELECTRICAL ROOM.
- ALL PANELBOARDS WITH 84-POLES OR LESS SHALL BE IN A SINGLE INTERIOR BACKBOX.
- PROVIDE LABEL ON ALL TRANSFORMERS INDICATING WHERE IT IS SERVED FROM. LABEL SHALL COMPLY WITH NEC.

**RISER NOTES:**

- MOUNT GENERATOR OUTPUT CIRCUIT BREAKERS WITHIN GENERATOR ENCLOSURE.
- 4P-100A, 42kA WITHSTAND RATING.
- 4P-200A, 42kA WITHSTAND RATING.
- (4) #1 + #8GW - 1-1/2". ROUTE ALONG EXTERIOR WALL TO NEW PANEL LOCATIONS.
- (4) #3/0 + #8GW - 2". ROUTE ALONG EXTERIOR WALL TO NEW PANEL LOCATIONS.
- 3P-100A ELECTRONIC TRIP LSI-TYPE CIRCUIT BREAKER (LIFE SAFETY LOADS).
- 3P-200A ELECTRONIC TRIP LSI-TYPE CIRCUIT BREAKER (STANDBY LOADS).
- TEMPORARILY FEED ALL EXISTING LOADS ON THESE PANELS FROM CORRESPONDING E2 PANELS AND REMOVE EQUIPMENT. ONCE NEW GENERATOR AND ELECTRICAL INFRASTRUCTURE IS FULLY INSTALLED AND ACTIVE, RELOCATE CIRCUITS AS INDICATED ON PANEL SCHEDULES.
- REMOVE EQUIPMENT ONCE NEW EMERGENCY INFRASTRUCTURE IS FULLY INSTALLED AND ACTIVE.
- MAINTAIN FEEDER FOR TEMPORARY CONNECTION TO ATS-2. MODIFY/EXTEND FEEDER AS REQUIRED.
- TEMPORARILY CONNECT MAINTAINED FEEDER TO ATS-2 TO SERVE EXISTING EMERGENCY LOADS UNTIL NEW EMERGENCY ELECTRICAL SYSTEM IS FULLY INSTALLED AND ACTIVE.
- REUSE EXISTING CONDUIT. REFER TO PANEL SCHEDULES FOR WIRE SIZE INFORMATION.

**KEY PLAN**



NO.	DATE	DESCRIPTION
1	04/24/23	ADDENDUM #1

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**ELECTRICAL LEGENDS, CONVENTIONS, AND ABBREVIATIONS**  
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